

## CLAIMS

What is claimed is:

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1. A method of analysis comprising the steps of:

(a) labeling at least one sample of test molecules each with a label;

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(b) mixing the labeled sample with a second sample into a homogenous mixture of test molecules;

(c) binding said homogeneous mixture to an array; and

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(d) detecting at least one sample from said array.

2. The method of analysis of Claim 1 further comprising the step of:

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detecting and quantifying the quantity of a test molecule in at least one sample.

3. The method of analysis of Claim 1 further comprising the step of:

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detecting and differentiating between samples of test molecules through an observance of at least one label.

4. The method of analysis of Claim 1 further comprising the step of:

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comparing relative amount between samples through an observance of at least one label.

5     5.     The method of analysis of Claim 1 further comprising the step of:

automated analysis.

10    6.     The method of analysis of Claim 1 further comprising the step of:

an observational technique selected from the group consisting of: post-translational modification of protein study, protein expression study, and gene-expression analysis.

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7.     The method of analysis of Claim 1 wherein the label is a radioactive labeling agent.

20    8.     The method of analysis of Claim 1 wherein at least one label is a distinguishing characteristic of the molecule other than an incorporated chemical tag.

9.     The method of analysis of Claim 1 further comprising the step of:

25     placing a screen over the array for selective filtering of signal from at least one sample from said array.

30    10.    The method of analysis of Claim 1 wherein a sample is labeled by neutron bombardment

11. A method of labeling a sample for analysis by neutron bombardment.
- 5 12. A method of detection using labeled molecules to detect the present of similar but unlabeled molecules by competitive binding to an array.
- 10 13. The method of Claim 12 further comprises a step of quantifying said unlabeled molecules.
14. The method of Claim 12 wherein the label is a radioactive label.
- 15 15. The method of Claim 12 wherein said labeled molecules are prepared by neutron bombardment.
- 20 16. The method of analysis of Claim 1 wherein said array comprising immobilized label.
17. An array comprising immobilized label.
- 25 18. Said array of Claim 17 wherein said label includes radioactive isotope.
19. Said array of Claim 17 wherein said label includes biotin.
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20. Said array of Claim 17 wherein said label includes fluorescence.